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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CARTER, AARON W

ART UNIT PAPER NUMBER

2624

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary  
for Applications  
Under Accelerated Examination**

Application No.

10/609,493

Applicant(s)

SHINOTSUKA ET AL.

Examiner

Aaron W. Carter

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Since this application has been granted special status under the accelerated examination program,**  
**NO extensions of time under 37 CFR 1.136(a) will be permitted and a SHORTENED STATUTORY PERIOD FOR**  
**REPLY IS SET TO EXPIRE:**

**ONE MONTH OR THIRTY (30) DAYS, WHICHEVER IS LONGER,**  
**FROM THE MAILING DATE OF THIS COMMUNICATION -- if this is a non-final action or a *Quayle* action.**  
(Examiner: For **FINAL** actions, please use PTOL-326.)

The objective of the accelerated examination program is to complete the examination of an application within twelve months from the filing date of the application. Any reply must be filed electronically via EFS-Web so that the papers will be expeditiously processed and considered. If the reply is not filed electronically via EFS-Web, the final disposition of the application may occur later than twelve months from the filing of the application.

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.  
2) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 3) ☒ Claim(s) 1-12 is/are pending in the application.  
3a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
4) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
5) ☒ Claim(s) 1-12 is/are rejected.  
6) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
7) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 8) ☐ The specification is objected to by the Examiner.  
9) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
10) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 11) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☒ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/24/03.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,163,621 to Paik et al. ("Paik").

As to claim 1, Paik discloses an image processing device for emphasizing a specified luminance area of an image taken by an image sensor (column 4, lines 41-48, wherein a window corresponds to a specified luminance area and brightness is synonymous for luminance), wherein any plural luminance areas of the image are selected (Fig. column 4, lines 1-25 and 41-48, wherein the multiple windows corresponds to any plural luminance areas) and sensor outputs corresponding to the selected luminance areas are emphasized by using an image sensor output characteristic conversion table to increase a contrast of each image portion in each of the selected luminance areas (column 4, lines 41-60 and column 5, lines 20-22, wherein brightness levels correspond sensor outputs corresponding to the selected luminance areas, the look-up table corresponds to the conversion table and improving contrast corresponds to increasing contrast).

As to claim 2, Paik discloses a image processing device as defined in claim 1, wherein an image sensor output of each luminance area other than the emphasized luminance areas is fixed to zero or a specified value (column 5, lines 6-15, wherein the Ymin corresponds to a specified value).

As to claim 7, please refer to the rejection of claim 1 above.

As to claim 8, please refer to the rejection of claim 2 above.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 4, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paik in view of USPN 5,808,677 to Yonemoto.

As to claim 3, Paik discloses an image processing device as defined in claim 1.

Paik does not disclose expressly wherein a light sensor circuit representing at least one unit pixel of the image sensor has a logarithmic output characteristic.

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However, Yonemoto discloses a light sensor circuit representing at least one unit pixel of an image sensor has a logarithmic output characteristic (column 12, lines 14-22, wherein since the transistor is operating in the weak inverse region, it is providing a logarithmic output characteristic).

Paik & Yonemoto are combinable because they are from the same art of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use an image sensor comprising a light sensor circuit representing at least one unit pixel that has a logarithmic output characteristic as taught by Yonemoto, in the image processing device disclosed by Paik.

The suggestion/motivation for doing so would have been to provide an amplifier type solid-state imaging device of a capacitor load operation system in which sensitivity can be made uniform, sensitivity can be increased, a power consumption can be reduced and a fixed pattern noise can be removed (Yonemoto, column 2, lines 43-48).

Therefore, it would have been obvious to combine Paik with Yonemoto to obtain the invention as specified in claim 3.

As to claim 4, the combination Paik and Yonemoto disclose an image processing device as defined in claim 3, wherein a light sensor circuit representing one unit pixel of the image sensor comprises a MOS transistor for converting a current flowing in a photo diode into a voltage signal having a logarithmic characteristic in a weak inverse state (column 12, lines 14-

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22, wherein since the transistor is operating in the weak inverse region, it is providing a logarithmic output characteristic).

As to claim 9, please refer to the rejection of claim 3 above.

As to claim 10, please refer to the rejection of claim 4 above.

5. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Paik and Yonemoto in view of USPN 5,420,631 to Hamasaki.

As to claim 6, the combination of Paik and Yonemoto discloses an image processing device as defined in claim 3.

The combination of Paik and Yonemoto does not disclose expressly wherein a light sensor circuit representing one unit pixel of an image sensor has a shutter function.

However, Hamasaki discloses a light sensor circuit representing one unit pixel of an image sensor has a shutter function (column 1, lines 6-10).

Paik, Yonemoto & Hamasaki are combinable because they are from the same art of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to provide the image processing device disclosed by the combination of Paik and Yonemoto with a light sensor circuit representing one unit pixel of an image sensor that has a shutter function.

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The suggestion/motivation for doing so would have been to provide an element reset to allow charge accumulation (Hamasaki, column 1, lines 50-54).

Therefore, it would have been obvious to combine Paik and Yonemoto with Hamasaki to obtain the invention as specified in claim 6.

As to claim 12, please refer to the rejection of claim 6 above.

### ***Double Patenting***

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No.

10/641,587 (“587”). Although the conflicting claims are not identical, they are not patentably

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distinct from each other because they set forth matters (claims of 587 are directed to a welding condition monitoring device and the present invention is directed to a general image processing device) which are obvious over each other. Given the welding condition monitoring device, the generic image processing device would have been obvious because it contains all the elements of the instant application in an obvious variation as further pointed out below.

Regarding claim 1 of the instant application, 587 discloses an image processing device for emphasizing a specified luminance area of an image taken by an image sensor, wherein any plural luminance areas of the image are selected and sensor outputs corresponding to the selected luminance areas are emphasized by using an image sensor output characteristic conversion table (claim 1, lines 2-4, “which device has a means for selectively emphasizing outputs of the image sensor for any of luminance areas of the image by using an output-characteristic conversion table for the image sensor”) to increase a contrast of each image portion in each of the selected luminance areas (claim 1, line 6, “area emphasized respectively to increase a contrast”).

Regarding claim 2 of the instant application, 587 discloses an image sensor output of each luminance area other than the emphasized luminance areas is fixed to zero or a specified value (claim 1, lines 8-9, “area is fixed to a constant level”).

Regarding claim 3 of the instant application please refer to claim 2 of application 587.

Regarding claim 4 of the instant application please refer to claim 3 of application 587.

Regarding claim 5 of the instant application please refer to claim 4 of application 587.



Regarding claim 6 of the instant application please refer to claim 5 of application 587.

As to claims 7-12, please refer to the explanation for claims 1-6 above.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Priority***

8. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 12/26/2000. It is noted, however, that applicant has not filed a certified copy of the 2000-404832 application as required by 35 U.S.C. 119(b).

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2002/0025079 to Kuwata et al. discloses a luminance area emphasizing process.

USPN 6,463,173 to Tretter discloses a luminance area emphasizing process.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W. Carter whose telephone number is (571) 272-7445. The examiner can normally be reached on 8am - 4:30 am (Mon. - Fri.).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Aaron Carter

A handwritten signature in black ink, appearing to be 'AC' or similar initials, written in a cursive style.